

Application No.: 09/824,931

REMARKS/ARGUMENTS

Applicants assert that no new matter is presented by these amendments and respectfully request entry of the same. Upon entry of this amendment, claims 1-16, and 27-28 are pending, and of these, claims 1, 9, and 27 are independent. No new claims have been added.

With respect to Applicants previous election of claims 1-16, and 27-28 corresponding to Group I of the Restriction Requirement mailed 9/9/2003, Applicants hereby cancel Claims 17-26, and 29-51 without prejudice or disclaimer. Applicants respectfully reserve the right to re-present non-elected subject matter in a divisional or other related application.

Claims 4, 12 are amended for the purposes of clarity and formality and to correspond to amendments made to Claims 1 and 9 that are described further below. Claims 15, and 16, are amended to remove unnecessary language. Applicants assert that the scope of each of the claims has not been changed as a result and upon entry of these amendments.

Reply to Claim Rejections – 35 U.S.C. §112

Claims 1-16, 27, and 28 are rejected under 35 USC 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. In particular, the Examiner asserts that the synthesis of polymers as recited in the preamble of independent claims 1, 9, and 27 is not required by the limitations of each of the claims and thus is not clear whether the preamble controls the metes and bounds of the claims or the claim limitations control.

Application No.: 09/824,931

Applicants have amended claims 1, 9, and 27 to clarify the limitations of sequentially aligning at least two of the plurality of reticles associated with the reticle area, and include the limitation of enabling the formation of polymers from the monomers coupled at each sequential step. Support for the amendments may be found on page 21, line 25 *et seq.* that describes the use of masks to synthesize polymers, each mask comprising a plurality of reticle areas each having a plurality of reticles.

Applicants respectfully assert that newly amended independent claims 1, 9, and 27 and dependent claims 2-8, 10-16, and 28 particularly point out and distinctly claim the subject of the invention.

Reply to Claim Rejections – 35 U.S.C. §102(e)(1)

Claims 1-16 are rejected under 35 USC 102(e)(1) as being anticipated by Hess et al. (2002/0094533) that the Examiner asserts is prior art via its claim of priority to Provisional Patent Application Serial No. 60/239,538. Hess et al. generally describes “platens” having a high-density array of through holes that may be employed for producing high-density arrays of chemical, biochemical, and biological compounds. Hess also describes employing one or more masks applied to the surface of the platen to selectively block or be permissive to the through holes of the platen.

For example, in paragraph 0021 Hess et al. describes:

“Still another embodiment of the invention is a method of creating a chemical array. The method includes the steps of: a) providing a platen having a plurality of through-holes and two opposing surfaces; b) applying

Application No.: 09/824,931

a mask to one or both surfaces of the platen to block at least some of the through-holes, while leaving other through-holes open; c) exposing a surface of the platen to a reagent”

also in paragraph 0021 Hess et al. describes:

“and d) repeating steps b) and c) (e.g. at least once, generally at least three times; for creation of nucleic acid arrays, the steps can be repeated four times the length of the desired nucleic acid chains”

further in paragraph 0021 Hess et al. describes:

“The mask can also be translated (e.g., moved between the repetitions of the method) to expose different through-holes. In some cases the mask has co-registration pins and holes such that alignment of the pins and holes in the mask register with the through-holes in the platen”

With respect to independent claims 1 and 9 Applicants respectfully disagree with the Examiners assertion that Hess et al. reaches each of the claimed limitations. In particular, the Hess et al. does not describe a mask that is subdivided into a plurality of discrete reticle areas, and further where each reticle area is further subdivided and comprises a plurality of discrete reticles, such as for instance reticle areas 610A and 610C illustrated in Figure 6A of the present application and associated text found on page 21, line 25 *et seq.* Hess et al. also thus does not describe the association of the plurality of reticles of the reticle area with a same discrete synthesis area on the substrate. Rather,

Application No.: 09/824,931

Hess et al. describes a mask that comprises a single area that interfaces with the surface of the platen.

Further, Hess et al. does not describe the steps of sequentially aligning discrete areas of the mask such as a reticle with a synthesis area on the substrate so that at least two of the plurality of reticles of a reticle area is aligned with the synthesis area in sequence. Also, Hess et al. does not describe the synthesis of a polymer based upon the sequential alignment of at least two of the reticles and the coupling of monomers at each alignment step. Rather, Hess et al. describes aligning a complete mask with the platen, where in some cases the mask may be translated with respect to the platen, but does not describe the sequential alignment of a first area of the mask with the platen then aligning a second area of the mask with the same platen that is discrete from the first area.

For example, the present application provides an example that illustrates the steps of sequentially aligning four reticles for a plurality of reticle areas each with an associated synthesis area on a wafer in Figures 6D-6H, and associated text on page 22, line 14 *et seq.* Step one of aligning a first reticle such as reticle 610A1 with a synthesis area on wafer 600 is illustrated in Figure 6A, step 2 of aligning a second reticle such as reticle 610A2 with the same synthesis area is illustrated in Figure 6B, and so on with steps 3 and 4 illustrated in Figures 6F and 6G. In each of the steps the positional relationship of mask 155E-1 with respect to wafer 600 varies in order to align the appropriate reticle with its associated synthesis area, resulting in synthesized polymers in each synthesis area such as synthesis area 630A illustrated in Figure 6H.

Application No.: 09/824,931

Thus Applicants respectfully assert that Claims 1 and 9 are patentable. Also, each of Claims 2-8 depends from claim 1 in the chain of dependency, and each of Claims 10-16 depends from Claim 9 and each are thus patentable for the reasons described above.

Reply to Claim Rejections – 35 U.S.C. §103(a)

Applicants respectfully assert that the subject matter of each of the claims was commonly owned at the time the invention was made.

Claims 1-16, 27, and 28 are rejected under 35 USC 103(a) as being unpatentable over Hess et al. in view of *In re Venner*[262 F.2d 91, 95, 120 USPQ 193, 194 (CCPA 1958)]. The Examiner asserts that Hess et al. provides a description of the basic invention but does not include computerization description as in claims 27 and 28 which the examiner states are reasonably deemed embodiments within the instant claims 1-16 as options. The Examiner further asserts that the legal decision *In re Venner* indicates that motivation and suggestion is well known to automate a manual activity.

Similar to the rejections made under 35 USC 102(e)(1), Applicants respectfully disagree with the Examiners assertion that Hess et al. teaches the invention of the aforementioned claims. In particular with respect to independent Claims 1, 9, or 27, Hess et al. does not describe a mask that is subdivided into a plurality of discrete reticle areas, and further where each reticle area further comprises a plurality of discrete reticles. Additionally, Hess et al. also thus does not describe the association of the plurality of reticles of the reticle area with a same discrete synthesis area on the substrate. Also, Hess

Application No.: 09/824,931

et al. does not describe the steps of sequentially aligning discrete areas of the mask such as a reticle with a synthesis area on the substrate so that at least two of the plurality of reticles of a reticle area is aligned with the synthesis area in sequence. Even further, Hess et al. does not describe the synthesis of a polymer based upon the sequential alignment of the reticles and the coupling of monomers at each alignment step. Thus, Hess et al. does not describe the invention of independent Claims 1 and 9 and therefore any suggestion or motivation to automate the inventions described in Hess et al. does not anticipate independent Claim 27.

Applicants also respectfully assert that the decision of *In re Vennér* governs providing automatic means to replace a manual process that is known in the prior art. Applicants respectfully assert that the Claimed invention of the present application such as for instance the invention of Claims 1 and 9, is not known in the prior art for the reasons described above. Therefore providing an automatic means such as computerization is patentable with respect to the Claimed invention, such as the invention of Claim 27, in accordance with the decision.

Therefore, Applicants respectfully assert that independent claims 1, 9, and 27 are patentable. Also, each of Claims 2-8 depends from claim 1 in the chain of dependency, and each of Claims 10-16 depends from Claim 9 in the chain of dependency, and Claim 28 depends from Claim 27 and each are thus patentable for the reasons described above.

Application No.: 09/824,931

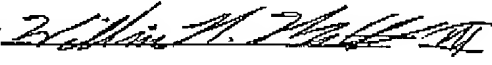
CONCLUSION

For these reasons, Applicants believe all pending claims are now in condition for allowance. If the Examiner has any questions pertaining to this application or feels that a telephone conference would in any way expedite the prosecution of the application, please do not hesitate to call the undersigned at (781) 280-1522.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account 01-0431.

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

By 

William R. McCarthy III Reg. No.: 55, 788

Attachments

Customer No.: 22886
Legal Department
Affymetrix, Inc.
3380 Central Expressway
Santa Clara, CA 95051
Tel: 781/280-1522
Fax: 781/687-9090